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ABSTRACT

A study was made to secure surveyed data on the current and projected employment of specialists in educational media and technology. In addition, the surveyed local school superintendents and deans of instruction in community colleges were asked to suggest areas in which media training would be desirable in the public schools and community colleges. Approximately 296 presently employed librarians, media specialists, and combination librarian-media specialists were identified as needing additional training beyond the bachelor's degree. The respondents anticipated hiring 151 media-library related personnel at the bachelor's level and 79 at the master's level in the next five years. Approximately half of the people needed in these three occupational areas will be in the areas of media or combination library-media. The most significant survey factor indicates that many school administrators are unaware of the growing trend for media-library personnel to be trained with joint skills. Furthermore, respondents who were aware unrealistically felt that such a person could be found who is qualified with just a bachelor's degree. (WCM)

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A Survey of Need For Personnel in Educational Media and Technology in the State of Virginia

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JSL and DMM

I. Introduction

The need for education and interest in improving the educational process are becoming greater each day. Educational media and technology are being used to change and improve on the traditional styles of teaching and learning. Attention is being shifted from the teacher as an imparter of information to the learner as the focal point in the process of education. This demands that both the teacher and student assume different roles in the classroom. The student is increasingly involved in the active direction of his own learning. The teacher is to be an organizer and serve in a more creative role. These changes are bringing about the need for school personnel with specialized skills in educational media and technology.

The personnel responsible for the coordination of educational media and technology in a school must be well trained and capable of utilizing a variety of resources in the design of appropriate instructional systems. The role of such a person is much more than keeping and dispensing materials and equipment. Personnel involved with educational media and technology in local school systems may have titles ranging from audiovisual specialist to learning resources director, instructional designer, or educational technologist. Regardless of the terminology used, the specialist is usually expected to be familiar with the materials and equipment commonly included as audiovisual media. These materials and equipment are designed to convey meaning without complete

dependence on verbal symbols or language.[1]

In addition to familiarity with audiovisual materials and equipment, the educational media and technology specialist is also commonly expected to be involved in instructional systems design and other related areas, including curriculum development. If the emphasis is on educational technology, it is often felt that the specialist must have a knowledge of a broad base of learning theory, social foundations of education, and educational psychology. Educational technology has been defined as "the application of science-based knowledge to educational and instructional teaching-learning problems."[2]

Educational media and technology specialists are often responsible for resource centers in the public schools. These responsibilities bring about the need for training in other areas. Brown, Norberg, and Srygley[3] have listed thirteen areas or functions in educational media, as follows:

Designing instructional systems

Designing instructional facilities

Administering materials (other than textbooks)

Administering textbooks

Administering equipment

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[1]Carlton W. H. Erickson and David H. Curl, Fundamentals of Teaching With Audiovisual Technology (New York: The Macmillan Company, 1972), p. 13.

[2]Educational Technology Publications, "What is Educational Technology?" Englewood Cliffs, New Jersey, n.d., p. 1.(Mimeographed)

[3]James W. Brown, Kenneth D. Norberg, and Sara K. Srygley, Administering Educational Media: Instructional Technology and Library Services (New York: McGraw - Hill Book Company, 1972), pp. x-xi.

Administering production services

Administering television services

Administering individualized learning

Administering automated learning systems

Improving utilization practices

Budgeting media services

Administering media personnel

Research and evaluation

Meeting the need for personnel in educational media and technology requires systematic study and planning. The establishment and operation of a program to train specialists in the area must be based on a study of the current employment practices, projected need for such specialists, and a determination of the areas in which training is needed as perceived by employers.

Statement of Problem

The problem was to determine the educational status of persons currently employed as specialists in educational media and technology, the projected demand for specialists in educational media and technology in the public schools and community colleges in the State of Virginia, and the areas in which training is needed by specialists in educational media and technology.

Objectives

The primary objectives of this project were as follows:

1. To determine the educational status of persons currently employed as specialists in educational media and technology.
2. To determine the projected demand for specialists in educational media and technology in the public schools and community colleges in the State of Virginia.
3. To determine the areas in which training is needed by specialists in educational media and technology as perceived by public school administrators and community college deans.

Importance

A Task Force for Educational Media and Technology was established in February, 1974, by the Dean of the College of Education, Virginia Polytechnic Institute and State University, to study the feasibility of establishing a program in educational media and technology. As the Task Force began its work, it found a lack of data on the current employment status of and need for persons with training in educational media and technology in the State of Virginia.

One of the major employers of persons in this area is the public school system. This project was designed to survey local division school superintendents and deans of instruction in community colleges to secure relevant data on the current employment and projected employment of specialists in educational media and technology. In addition, an attempt was also made to secure suggestions on the areas in which training would be desirable for persons in educational media and technology.

II. Procedure

The procedures involved in the conduct of this project were the development and submission of a survey form to local division school superintendents and deans of instruction in community colleges. The school superintendents were identified by using the "Virginia Educational Directory." The deans of instruction were identified by using a current list of community college personnel in Virginia.

The survey form was developed with assistance from the Task Force for Educational Media and Technology. The questions included on the survey form were of the short answer and multiple selection type. One of the questions was partially open-ended and provided for the respondents to indicate areas not previously listed on the survey form. The survey form was submitted to the school superintendents and deans of instruction by mail. A letter explaining the survey and a return envelope were included with each survey form mailed out. (A sample copy of the letter and survey form is contained in the Appendix.)

The responses were tabulated by hand and involved the determination of frequencies and the establishment of a weighted index of frequencies based on rank. The weighted index was used to establish the area of training which received the highest overall rank by the respondants. It was determined by using a matrix containing 17 cells for each of the 17 areas of training. The frequency of rating the 17 areas of training was appropriately recorded in the proper cell. After tabulation of frequencies was completed, the

N in each cell was multiplied by a number corresponding to a reverse of the rank order. For example, the N for each area of training ranked as number one was multiplied by 17, the N ranked as number two by 16, the N ranked as number three by 15, and so on. The index was determined by obtaining the sum of the weighted scores for each area of training. The area of training with the largest index score was interpreted as the area receiving the highest overall rank.

III. Findings

The survey form was mailed to 160 persons in the State of Virginia. Of these, 127 went to superintendents of local school divisions and 33 went to deans of instruction in community colleges. Responses were received from 103 persons. Each of the major questions on the survey form are reported separately.

Status of Specialists in Educational Media and Technology

Table 1 summarizes the responses to the following questions: (1) How many of the following persons (librarians, media specialists, and combination librarians-media specialists) are presently employed in your school system or college? (2) How many have masters degrees? and (3) How many need additional training?

It is significant to note that only 19 percent of the people reported in the library and/or media-related areas have masters degrees. The respondents further indicated that only 25 percent needed additional training. However, the 296 persons who have been indicated as needing additional training comprise a sizeable resource of people who are available to enroll in graduate-level courses. It is very likely that in the process of obtaining additional training they would also enroll in masters degree programs.

Projected Demand for Specialists in Educational Media and Technology

The respondents were requested to indicate the number of additional persons who would be needed in these positions (librarians, media specialists, and combination media specialists-librarians) by degree level in the next five years. Table 2 summarizes these findings.

Table 1

Number of Persons Employed by Position, Number with Masters Degrees, and Number Needing Additional Training

	Employed		Masters Degrees		Needing Additional Training	
	Number	Percent	Number	Percent*	Number	Percent*
Librarian	1049	88.8	203	19.3	236	22.4
Educational Technologist-Media Specialist	63	5.3	36	5.7	11	17.4
Combination Librarian-Media Specialist	69	5.9	16	23.1	49	71.0
Total	1181	100	255	21.0	296	25.0

*Percent of total number employed.

Table 2

Projected Number of Persons to be Employed by Degree

	Bachelors		Masters		Doctorate		Other		Total	
	Number	Percent*	Number	Percent*	Number	Percent*	Number	Percent*	Number	Percent*
Librarian	84	36.2	33	14.2	0	0	0	0	117	50.4
Educational Technologist-Media Specialist	14	6.0	27	11.6	1	.4	1	.4	43	18.5
Combination Librarian-Media Specialist	53	22.8	19	8.1	0	0	1	.4	73	31.4
Total	151	65.1	79	34.0	1	.4	1	.4	232	100.3

*Percent statistics are of the grand total (232).

Of the 232 persons expected to be employed in the library-media area in the next five years, 65 percent will need only a bachelors degree. This is probably due to the certification regulation in the State of Virginia in which a person can be certified as a school librarian with a bachelors degree. The respondents indicated that 73, or 31.4 percent, of the persons will be needed as combination library-media specialists in the next five years. However, only 19 will be required to have a masters degree.

Areas in Which Training Is Needed

The respondents ranked the areas in which training was needed by specialists in educational media and technology. Seventeen areas were included on the survey form. Space was also provided for the respondents to list other areas in which training was needed. Table 3 presents a summary of ranking of areas of training needed and Table 4 contains the total weighted score and index of rank for each area of training.

The results of the ranking indicate that the area of utilization of media (weighted score of 1061) should receive first priority in the training of specialists in educational media and technology. The areas of managing media centers (weighted score of 953) and producing instructional materials (weighted score of 939) also received high priority. The area of individualized instruction (weighted score of 807) was fourth priority in the rank order. Other areas with weighted scores of over 500 were librarianship (701), curriculum design (697), learning theory (679), communication theory (651), and cataloging materials (549). Areas with weighted scores of less than 500 were graphics (378), producing motion pictures and television (338), research in education (321), photography (312), philosophy of education (307), educational psychology (307), measurement and evaluation (286), and social foundations of education (198).

Description of Respondents

One hundred sixty questionaires were mailed. Thirty-three went to deans of instruction in community colleges and 127 went to superintendents of public schools. Completed questionnaires were

Table 3

Summary of Ranking of Areas of Training Needed by Specialists in Educational Media and Technology

Area of Training	Number Ranking at Each Level																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Learning theory	8	6	8	1	7	6	1	4	4	3	3	2	0	0	6	0	0
Curriculum design	6	6	9	3	4	6	9	2	1	3	3	2	1	1	1	0	1
Communication theory	2	2	4	10	6	11	3	3	5	4	2	1	2	1	0	3	1
Utilization of media	22	13	7	10	10	2	3	3	1	1	0	0	0	0	0	0	0
Producing motion pictures and television	0	0	1	1	2	4	4	5	5	3	0	3	2	3	2	9	8
Graphics	0	0	2	3	2	4	4	5	1	2	4	5	5	3	4	3	2
Individualized instruction	7	9	6	9	3	5	4	8	5	3	1	3	1	0	2	0	0
Research in education	0	0	3	2	1	1	4	2	5	3	2	3	5	4	2	3	8
Producing instructional materials	9	11	16	8	6	7	6	2	1	0	1	1	0	0	0	0	0
Managing media centers	12	15	9	8	6	3	3	4	3	3	1	1	0	2	1	0	0
Cataloging materials	0	4	0	3	5	4	6	1	3	7	6	3	2	2	2	1	1
Photography	0	1	1	0	3	2	3	3	4	1	4	2	5	3	8	4	2
Philosophy of education	0	2	1	1	1	1	1	2	1	4	8	5	6	6	5	2	1
Social foundations of education	0	0	1	0	1	0	0	1	1	1	2	5	5	7	10	6	4
Measurement and evaluation	0	1	0	3	1	1	1	1	5	2	5	4	4	4	2	8	4
Educational psychology	1	1	0	0	1	3	1	3	2	7	3	4	5	5	4	4	2
Librarianship	9	6	8	5	6	2	1	2	4	2	3	4	2	3	1	2	3

Table 4

Weighted Index of Ranking of Areas of Training Needed by Specialists in Educational Media and Technology

Area of Training	Total Weighted Score	Rank Order
Learning theory	679	7
Curriculum design	697	6
Communication theory	651	8
Utilization of media	1061	1
Producing motion pictures and television	338	11
Graphics	378	10
Individualized instruction	807	4
Research in education	321	12
Producing instructional materials	939	3
Managing media centers	953	2
Cataloging materials	549	9
Photography	312	13
Philosophy of education	307	14
Social foundations of education	198	17
Measurement and evaluation	286	16
Educational psychology	307	14
Librarianship	701	5

returned by 63.0 percent of the persons included. The returned questionnaires were completed by school officials in various administrative positions. Table 5 presents a summary of the occupational positions held by the respondents.

Table 5

Occupational Positions of Respondents

Type	Number
School Superintendent	41
Assistant Superintendent	12
Director of Instruction	11
Director of Personnel	2
Library Coordinator	9
General Supervisor	3
Director of Learning Laboratory (Community College)	1
Director of Learning Resources (Community College)	6
Supervisor of Instructional Materials	4
Dean of Instruction (Community College)	6
Media Director	4
President (Community College)	1
Administrative Assistant	1
Not Indicated	2
Total	103

IV. Summary and Implications

Approximately 296 presently employed librarians, media specialists, and combination librarian-media specialists were identified by the respondents as needing additional training beyond the bachelors degree. In addition, of the 1181 people employed in library-media oriented areas, only 255, or .21 percent, currently hold masters degrees or higher. This would seem to indicate that there is a large resource of currently employed media-library personnel who either have been recommended for additional training or who may wish to secure further training and become candidates for higher degrees. The respondents indicated that they anticipated hiring 151 media-library related personnel at the bachelors level and 79 media-library related personnel at the masters level in the next five years. It is interesting to note that approximately half of the people who will be needed in the three occupational areas included in the study will be in the areas of media or combination library-media. In the opinion of the investigators, the most significant factor which the survey indicates was that many of the school administrators are unaware of the growing trend for media-library personnel to be trained with joint skills. Furthermore, the investigators are also of the opinion that many of the respondents who were aware of the trend toward media-library personnel unrealistically felt that such a person could be found who is qualified with just a bachelor's degree.

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Appendix

Sample Copy of Letter Mailed
to
School Superintendents and Deans of Instruction

and

Survey Form

COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

April 22, 1974

Dear Colleague:

The role of media and technology is becoming increasingly important in today's schools. In order to be responsive to these needs, your Land Grant University is interested in determining the need to develop capability in the area of educational media and instructional technology.

To that end, I would like to request your assistance in filling out the attached survey, which would be most helpful in our deliberations. We are not requesting your name or school, only your position. However, we would be most happy to send a final report to you if you would put your name and address on the back of the survey form.

Because of time considerations, we would like to receive the information by May 10, 1974. For your convenience, please find a stamped envelope enclosed.

Thank you very much for your assistance, time and consideration. The information will be invaluable.

Sincerely,

Mike Moore

Mike Moore, Chairman
College of Education
Task Force in Instructional Technology

Survey Form

Educational Media and Technology

Please supply the information which accurately indicates the status of your school system or college with regard to the following questions.

1. How many of the following persons are presently employed in your school system or college?

	Number Employed	Number with Masters Degrees	Number Needing Additional Training
Librarian	_____	_____	_____
Educational Technologist, Media Specialist, or related person	_____	_____	_____
Combination Librarian-Educational Technologist	_____	_____	_____

2. How many additional persons do you anticipate employing in these positions in the next five years? Indicate the degree which would be needed by the persons filling the jobs.

	Number to be Employed by Degree			
	Bachelors	Masters	Doctorate	Other
Librarian	____	____	____	____
Educational Technologist-Media Specialist	____	____	____	____
Combination Librarian-Educational Technologist	____	____	____	____

3. Rank the following areas in which training would be desirable for persons in educational media and technology. The item with the number 1 would be the highest priority.

____Learning theory
____Curriculum design
____Communication theory
____Utilization of media
____Producing motion pictures and television
____Graphics
____Individualized instruction
____Research in education
____Producing instructional materials
____Managing media centers
____Cataloging materials
____Photography
____Philosophy of education
____Social foundations of education
____Measurement and evaluation
____Educational psychology
____Librarianship

other (please list)_____

4. Indicate the position you hold:

____School superintendent
____Dean of instruction in a community college

other (specify)_____